

# Army Aviation Troops - In the Field, Part 1

## Introduction

This article deals with the organization and operations of a flying department under field conditions.

## A flight department

An air wing consists of a wing staff and a varying number of squadrons, which can either be fighter squadrons or reconnaissance squadrons. In addition, a photo section and a number of radio sections are included.

A departmental staff consists (at the autumn maneuver in 1935) of: 1 chief, 1 adjutant, 1 scribe, 2 motor orderlies, 1 driver and a radio detachment of 4-5 men. The rolling stock includes: 1 passenger car, 2 motorcycles (with back seat) and 1 radio car.

A *squadron* consists of a flying and a rolling echelon. The *flying echelon* includes personnel: 1 airman per machine, and in the case of reconnaissance machines also one observer per machine. Airmen and observers are commanders of different grades. A fighter squadron consists of 12-15 aircraft, while a reconnaissance squadron has 8-12 aircraft. (The number of airplanes comes from Source 1 and thus indicates the theoretical organization around 1936.)

A *rolling echelon* includes by personnel: 6-8 commanders of various ranks, 1 machine officer; 15-20 reserve craftsmen I (equal to sergeants) or II (equal to corporals) and approximately 80 privates to help the craftsmen, drive the motor vehicles and participate in the close defense of airfields. The rolling echelon consists of approximately 30 motor vehicles <sup>1)</sup>, on which personnel, spare parts, fuel, ammunition, tools, tent material, luggage, food, etc. are carried. The armament includes: 6 recoilless rifles in an anti-aircraft rack, Gevær 1889 and Pistol 1910/21.

A *radio section* consists of 1 commanding officer and 5 privates. The section has a radio van with equipment for setting up 1 transmitter and 2 receiver stations.

A *photo section* consists of 6-8 commanders and approx. 25 privates. The section has a rolling field studio and 3-4 motor vehicles.

For information on the personnel's personal equipment, see *Hærens Flyvertropper - Ballonparken*.

## The department staff

The department commander and his closest aides are physically located with the troop leader's (division commander's) staff, other department staffs and liaison commands.

Based on the division commander's orders and directives, the airmen are given their orders. The department commander assigns the various tasks to the squadrons - be it reconnaissance of the enemy's terrain, bombardment of enemy forces, observation of own artillery firing, photography or many other tasks.

The adjutant is responsible for ensuring that the squadrons receive their assignments, using the available means of communication, such as telephone, radio, engine orders and message fishing.

In addition to the actual tasks, the squadrons must also have situation reports, so that they can follow the course of events and thus solve their tasks more easily. These messages may only be communicated per radio, if they are coded.

## The radio section

The division staff's radio section (radio detachment) handles the communication between the division commander and the squadrons. The radio section is placed near the staff quarters; in the example in Source 2, it is a farm,

approximately 1 km from the staff quarters. The location must also accommodate opportunities for fishing and casting.

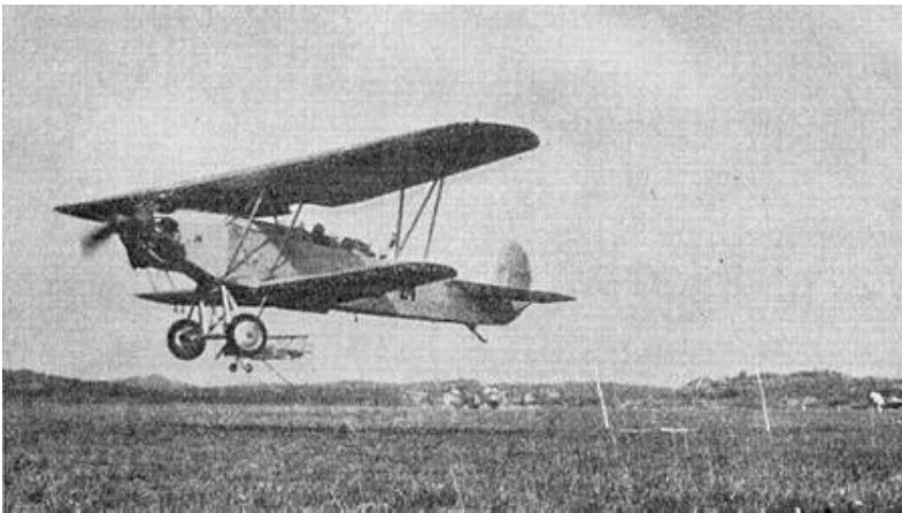
A picture of a radio van, the radio etc. are unfortunately missing, so for the time being the examples shown in *Clipboards - "Danmark's Army and Navy" - the Army's Air Force etc.* do it out of stock footage.

With regard to the material, Source 2 mentions that a small petrol engine covers the generator which supplies power to the radio.

## Phishing

If orders are to be given to aircraft that are not equipped with a radio, message fishing is used. For this purpose, two thin poles are set up, on which a string hangs. A sleeve is attached to the string, in which the written order is placed. The aircraft is then signaled that message fishing is desired.

When the airplane has to fish the message, it flies at a low altitude just above the suspended string, and the observer in the machine lowers a pole with a hook and grabs the string.



Phishing. From Source 3.

Two bright bars can be seen on the ground, immediately to the right of the front machine.

The aircraft are R-machines. The front machine is, as far as I can tell the number, possibly R 24.

Source 2 mentions an example of a signal fishing which took place during the autumn maneuver in 1935. The signal from the ground to the airplane was three white towels laid out on the ground next to the poles!

That it was clearly no easy task to catch a relatively thin string from an airplane is evident from the fact that it only succeeded after three attempts.

## Message drop

It was also possible for aircraft without a radio, or with messages that could not be overheard by potential enemy signal intelligence, to communicate with the forces on the ground. Message dropping is used for this.

The procedure here is that the radio section lays out a white *flag* (a large white piece of canvas, printed with specific black figures) on the ground when a friendly aircraft flies over the position.



I do not know the appearance of the Air Force insignia, but Source 1 shows a number of other examples. The example shown here is the insignia of the Guards Hussar Regiment. The piece of canvas was 4 m x 2 m. The flag was laid out with the upper edge in the direction of the enemy.

The messages that are thrown down are immediately - with the help of a motor ordinance - delivered

to the departmental staff.

## The photo section



Source 2 refers to the annual cantonment exercise as the test of the photo section's ability to operate under field conditions.

The section's physical location was typically a larger farm, where there was easy access to light and water, and with easy access to the nearest airfield.

Approximately 1 hour after plates and/or films have been delivered to the photo section, single copies are ready for interpretation.

If the images are subsequently to be reproduced, the section can produce 500 copies per hour.

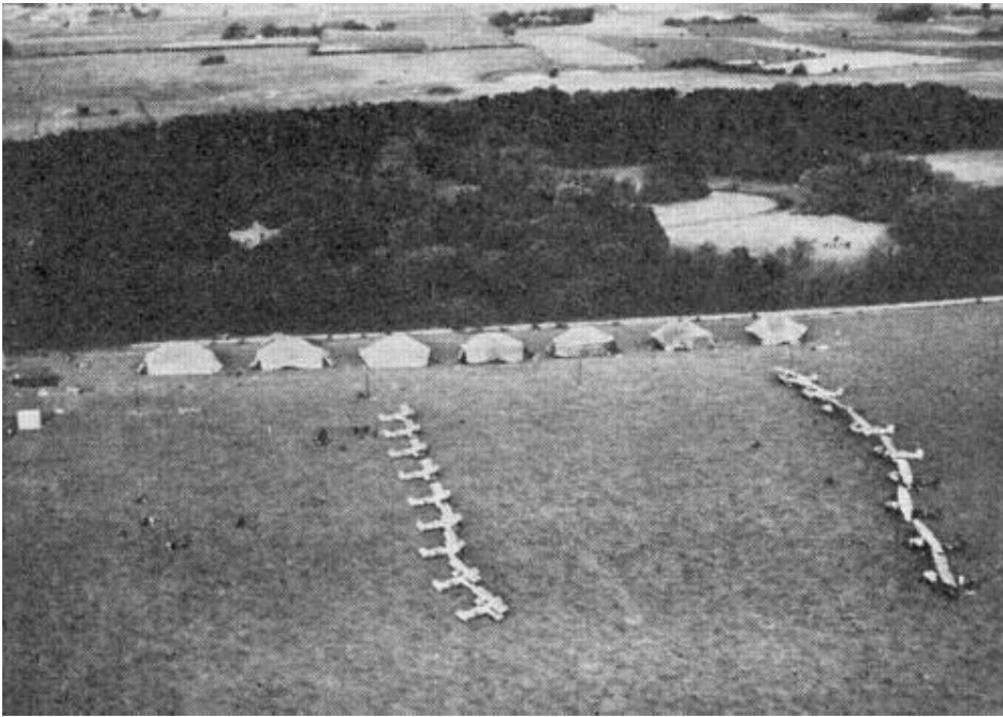
The rolling field studio was a 4-ton trailer of Czechoslovakian construction. The field studio in the photo, which originates from Source 2, bears the inscription *Flyverkorpsset, Fotovogn Nr. 1*. (Before 1 November 1932, the Army's Flying Corps was called the *Flying Corps*.)

## Field airfields

Source 1 states the following requirements for an *advanced airfield* - an even, firm and flat grass bed. The space must be large enough that, in all wind directions, there is the possibility of 300-400 m of drainage after the airplanes' wheels have touched the ground. If the space is to be used for flying at night, the requirement is 600-800 m.

A nearby piece of forest, villages or the like must also be present, so that the airplanes can be sheltered. There must also be good road connections to the site as well as a secure telephone connection to the authority to which the flying unit is subject. The site must not be closer to enemy territory than approximately 15 km.

If the distance to the superior authority is great, *advanced landing sites*, which are only used for a single day, can be used.

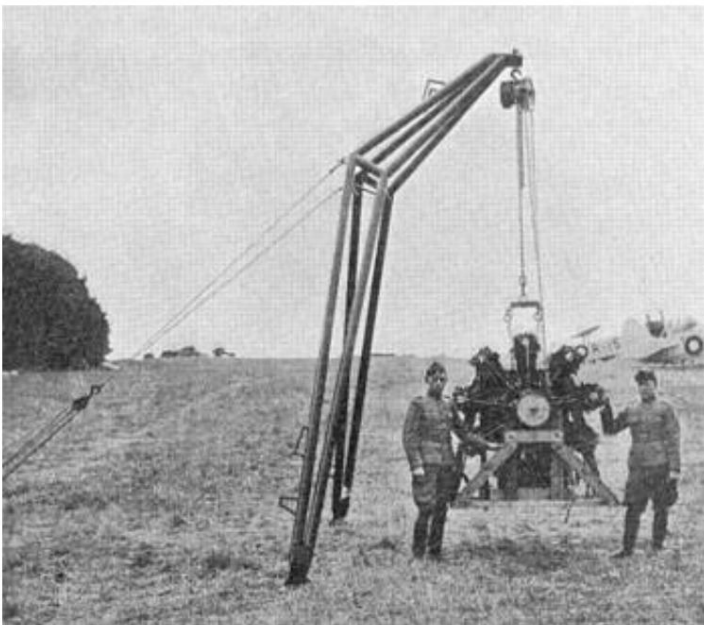


The image, which originates from Source 2, shows a field airfield, at Ussinggård, from the autumn maneuver 1930.

Fortunately - for the viewer - the blurring that Source 1 highlights as very important is not used. This gives an impression of how the space is arranged.

Furnishing an airfield, which has deficiencies from the hand of nature, requires the allocation of a larger workforce for clearing, filling, planning, blurring work, etc.

If there is a danger of attack by enemy light mobile forces, an infantry force, preferably a machine gun unit, must be provided as cover for the square.



The rolling echelon can only complete its layout of the site 10-12 hours after moving in, even if no clearing or grading work has to be done. Similarly, it can only be broken up 6-8 hours after the order to move has been given.

The image, which originates from Source 3, shows a *field crane*. The plane in the background is R-machine - R-15.

## Sources

1. *Memory book for use in the field, during exercises and war games* by lieutenant colonel HH Jørgensen, N. Olaf Møllers Publisher, Copenhagen 1936.
2. *25 Years of Flying by the Army - Flying history and flying stories* by C. Førslev, Levin & Munksgaard - Ejnar Munksgaard, Copenhagen 1937. Especially Lieutenant HH Nielsen's chapter on the photo service and Captain Viuf's chapter on "Sydpartiets flyverafdeling" during the autumn maneuvers in 1935 are used.
3. The *defense book* by Colonel T. Andersen, Gyldendal, Copenhagen 1941.
4. *Textbook for Army Privates, Part 1, Temporary Edition, Common to all weapons, corps and departments*, Copenhagen 1946.

## Postscript - About aerial photographs

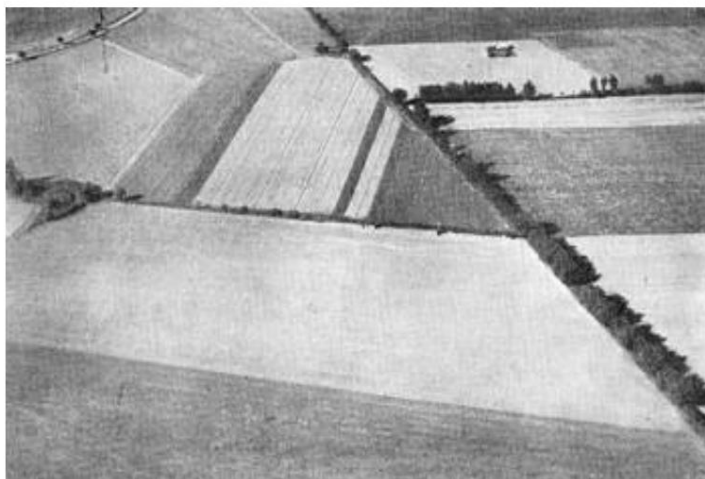
Aerial photographs are used as a supplement to visual observation - from the air or on land - and thus help to form part of the intelligence picture. The aerial photography can be used, among other things, to confirm or deny various intelligence. Photographing one's own positions is also used, for example to control blurring etc.

In the tactical use of aerial photographs, the greatest value lies in the timeliness of the image. At a given moment, the terrain looked exactly like this, just as the troops shown in the picture had the distribution shown.

Aerial photographs are either vertical shots or oblique shots.



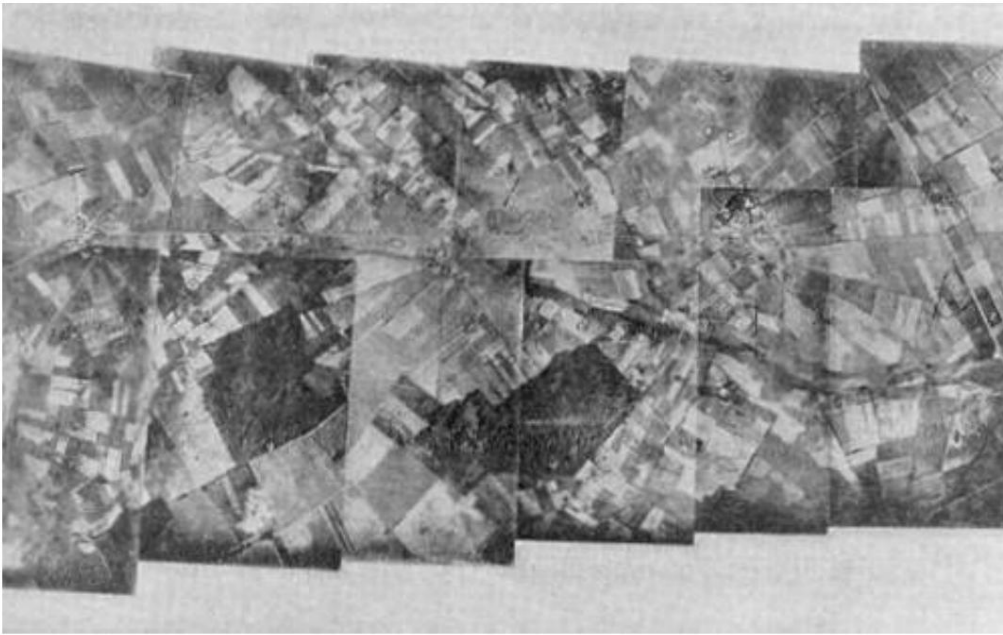
Vertical recording.  
*From Source 2*



Angled shooting.  
*From Source 2*

Vertical pictures are taken from different heights depending on the cloud height, the device you want to use or the scale you want. Angled shots are often used to show details in a given terrain.

The photo section usually lists information about the approximate scale ratio or flight height and focal length before the images are released to users.



Depending on the purpose, several aerial photographs can be combined into a map. Such maps are called photo maps or mosaic maps. The image is from Source 3.

In addition to the strictly military purposes, aerial photography also forms an important element in the preparation of topographic maps. Aerial photography is almost an "art form" in itself, not to mention the photo interpretation itself.

The postscript is thus simply intended as a small introduction to the subject and thus the work in the Photography Section.

### **Allied aerial photographs of World War II**

As an apropos to the mention of aerial photographs, I would recommend a visit to the website [The Aerial Reconnaissance Archives](#), which in 2004 introduced access to initially 5.5 million allied aerial photographs.

The site almost suffocated in success and immediately collapsed due to too many hits. Work is now being done to optimize the access conditions, and there is currently only a limited selection of images.

Per Finsted

As a supplement to the article, there is an account of the field airfields that the Norwegian Air Force had earmarked for use during a mobilization.

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### **Notes:**

1) The rolling stock includes, among other things: 2 kitchen trolleys (I and II), 1 luggage trolley and 1 medical trolley. The information originates from *Field Equipment for Individuals*, Ministry of War, Copenhagen 1936, with correction sheets up to August 1941. It also appears from this that the wagons were also intended for the squadron's staff and photo section. It also appears that the flight department's staff was assigned a baggage car. All vehicles are light trucks.